

New evidence revealed.

**76% Reduction** in  
Incidence of Periprosthetic  
Joint Infection (PJI)\*

The AQUACEL<sup>®</sup> Ag Surgical Dressing with Ionic  
Silver Reduces the Rate of Acute Periprosthetic  
Joint Infection Following Total Joint Arthroplasty

Cai J, Karam JA, Parvizi J, Smith EB, Sharkey PF

\*Compared to a standard dressing of sterile gauze secured with adhesive tape.

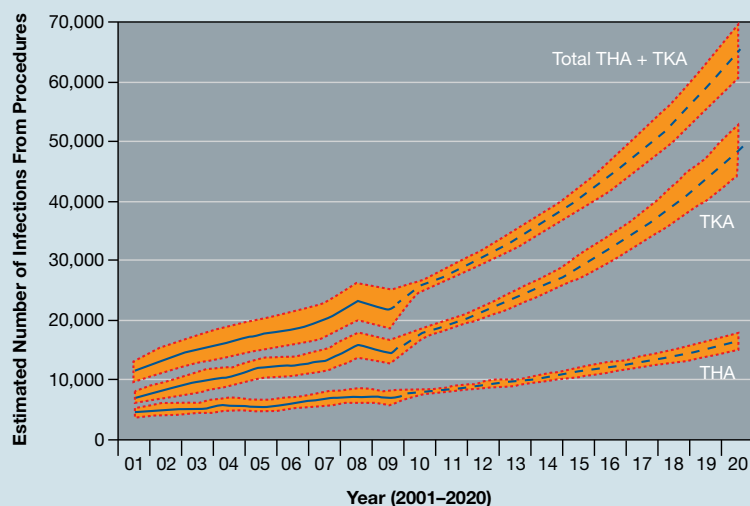
# Periprosthetic Joint Infection (PJI) in Today's Healthcare Environment

PJI, a surgical site infection (SSI) sometimes encountered after TJA, is a challenging complication for many healthcare organizations, often resulting in costly revision surgeries, longer hospital stays, and higher complication rates.<sup>1-3</sup> In the United States, PJI has become:

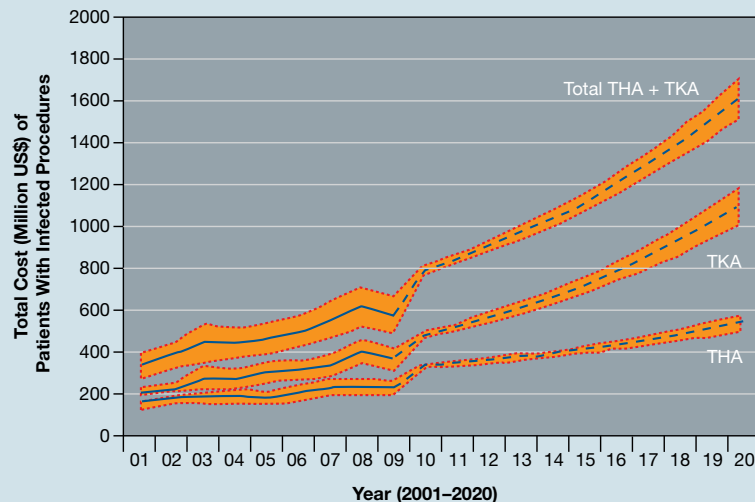
- The most common reason for failure of total knee arthroplasty (TKA)<sup>4</sup>
- The third most common reason for failure of total hip arthroplasty (THA)<sup>5</sup>

With a projected **increase in demand for TJA over the next 18 years**<sup>6</sup> and new reporting measures required by the Centers for Medicare and Medicaid Services (CMS) that will profoundly affect reimbursement, reducing PJI is now an important objective at healthcare facilities throughout the country.

**Historical and Projected Number of Infected THA, TKA, and Total (THA + TKA) Procedures in the US (2001–2020)<sup>7</sup>**



**Historical and Projected Total Inpatient Cost of Infected THA, TKA, and Total (THA + TKA) Procedures in the US (2001–2020)<sup>7</sup>**



----- 95% confidence intervals (CIs) of the historical estimates (2001–2009) and statistical projections (2010–2020)

Adapted with permission from Kurtz SM et al. *J Arthroplasty*. 2012. Epub doi:10.1016/j.arth.2012.02.022.

## The Role of Surgical Dressings in the Reduction of PJI

Historically, little consideration has been given to the role of surgical dressings in preventing PJI and promoting wound healing. However, thanks to a greater emphasis on minimizing preventable causes of infection throughout hospitals and healthcare facilities, this overlooked component of postoperative patient care is now receiving greater attention. **According to guidelines recently published by the United Kingdom's National Institute for Health and Clinical Excellence (NICE),\*** the ideal surgical dressing should be **occlusive and permeable**, creating a barrier that prevents microbial ingress into the wound while maintaining the correct balance between optimal wound moisture and desiccation. Additionally, NICE calls for surgical dressings to be **waterproof and easily removable** to reduce pain for the patient. New studies are being conducted to determine surgical dressings that meet these criteria and promote healing while reducing infection. One such study was recently completed at the Rothman Institute in Philadelphia, USA.<sup>8</sup>

\*To view the NICE guidelines regarding surgical wound dressings, please visit [www.nice.org.uk](http://www.nice.org.uk).

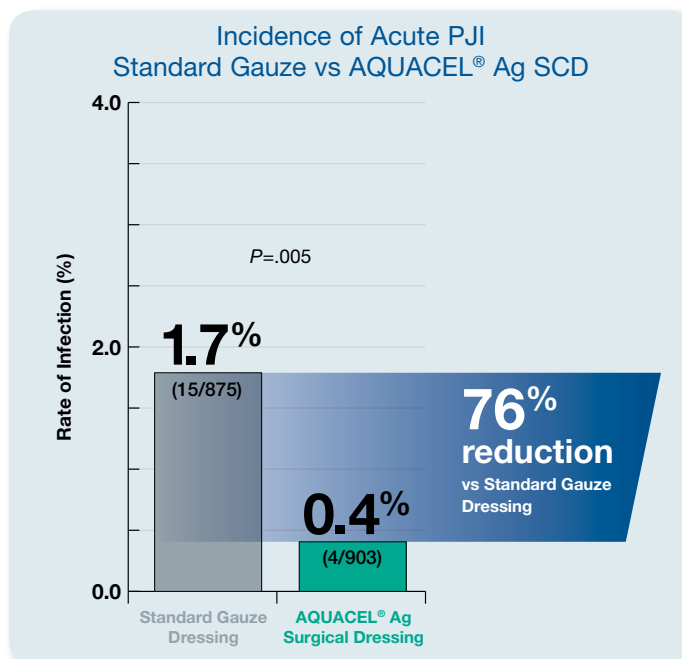
## New Study Finds that AQUACEL<sup>®</sup> Ag Surgical Cover Dressing (SCD) Significantly Reduces PJI Rate

In a recent analysis of 1778 patients, Dr. Peter Sharkey and his team of researchers at Philadelphia's Rothman Institute concluded that the type of surgical dressing used postoperatively makes a significant impact on PJI. This retrospective study was conducted by performing chart reviews to compare the overall incidence of PJI in 2 groups of patients who had undergone TJA. The AQUACEL<sup>®</sup> Ag SCD was applied to 903 patients in the study group in sterile conditions in the operating room and remained in place for 5 days. The control group of 875 patients received a standard dressing of sterile gauze applied over the incision site and secured with adhesive tape in the operating room.<sup>8</sup>

The findings of the study revealed that the use of AQUACEL<sup>®</sup> Ag SCD was effective in reducing the incidence of PJI by as much as 76% in patients undergoing TJA compared with standard dressing (1.7% standard gauze dressing vs 0.4% AQUACEL<sup>®</sup> Ag SCD;  $P=.005$ ).<sup>8</sup> Multivariate analysis further indicated that the use of AQUACEL<sup>®</sup> Ag SCD was a significant factor in reducing the risk of developing PJI by 83% after TJA (OR: 0.17[0.05-0.53];  $P=.003$ ).

## The AQUACEL<sup>®</sup> Ag Surgical Dressing with Ionic Silver Reduces the Rate of Acute Periprosthetic Joint Infection Following Total Joint Arthroplasty

Cai J, Karam JA, Parvizi J, Smith EB, Sharkey PF



**“Its systematic use would be an effective measure to prevent the occurrence of acute PJI following TJA...”**

— **Peter Sharkey, MD,**  
on AQUACEL<sup>®</sup> Ag SCD

Orthopaedic Surgeon,  
Director, The Rothman Institute  
at Riddle Hospital's Center for  
Orthopaedic Excellence

# AQUACEL® Ag Surgical Cover Dressing— the right dressing can make a difference

The mental, physical, and monetary burden PJI places on patients, coupled with the financial implications it has on healthcare facilities, has made managing these preventable infections a priority. Based on the findings of this study, **the systematic use of AQUACEL® Ag SCD would be an effective measure to help prevent the occurrence of acute PJI following TJA.**<sup>8</sup> Additionally, AQUACEL® Ag SCD is likely to improve overall patient satisfaction.<sup>9</sup>

## Reduce the incidence of PJI by as much as 76% with AQUACEL® Ag SCD\*

- Antimicrobial Protection<sup>10-12</sup>
- Skin-Friendly
- Comfortable and Flexible
- Waterproof



\*Compared to a standard dressing of sterile gauze secured with adhesive tape.

**References:** 1. Parvizi J, Pawasarat IM, Azzam KA, Joshi A, Hansen EN, Bozic KJ. Prosthetic joint infection: the economic impact of methicillin-resistant infections. *J Arthroplasty*. 2010;25(6 suppl):103-107. 2. Bozic KJ, Ries MD. The impact of infection after total hip arthroplasty on hospital and surgeon resource utilization. *J Bone Joint Surg Am*. 2005;87(8):1746-1751. 3. Lavernia C, Lee DJ, Hernandez VH. The increasing financial burden of knee revision surgery in the United States. *Clin Orthop Relat Res*. 2006;446:221-226. 4. Bozic KJ, Kurtz SM, Lau E, et al. The epidemiology of revision total knee arthroplasty in the United States. *Clin Orthop Relat Res*. 2010;468:45-51. 5. Bozic KJ, Kurtz SM, Lau E, et al. The epidemiology of revision total hip arthroplasty in the United States. *J Bone Joint Surg Am*. 2009;91:128-133. 6. Kurtz S, Ong K, Lau E, Mowat F, Halpern M. Projections of primary and revision hip and knee arthroplasty in the United States from 2005 to 2030. *J Bone Joint Surg Am*. 2007;89(4):780-785. 7. Kurtz SM, Lau E, Watson H, Schmier JK, Parvizi J. Economic burden of periprosthetic joint infection in the United States. *J Arthroplasty*. 2012;27(8 suppl):61.e1-65.e1. 8. Cai J, Karam JA, Parvizi J, Smith EB, Sharkey PF. The AQUACEL® Ag surgical dressing with ionic silver reduces the rate of acute periprosthetic joint infection following total joint arthroplasty. Poster presented at: 22nd Annual Meeting of the American Association of Hip and Knee Surgeons; November 2-4, 2012; Dallas, TX. 9. Wound complications and deep periprosthetic infection after total joint arthroplasty. The role of the surgical dressing? White Paper. 2012. Data on file, ConvaTec. 10. Jones SA, Bowler PG, Walker M, Parsons D. Controlling wound bioburden with a novel silver-containing Hydrofiber dressing. *Wound Repair Regen*. 2004;12(3):288-294. 11. Bowler PG, Jones SA, Walker M, Parsons D. Microbicidal properties of a silver-containing Hydrofiber dressing against a variety of burn wound pathogens. *J Burn Care Rehabil*. 2004;25(2):192-196. 12. Bowler P. Progression toward healing: wound infection and the role of an advanced silver-containing Hydrofiber dressing. *Ostomy Wound Manage*. 2003;49(suppl 8A):2-5.



To find out more about AQUACEL® Ag Surgical Cover Dressings,  
visit [www.convatec.com](http://www.convatec.com) or call 1-800-422-8811.

AQUACEL and Hydrofiber are registered trademarks of ConvaTec Inc.  
© 2012 ConvaTec Inc. AP-013197-MM

